

REMARKS/ARGUMENTS**1.) Claim Amendments**

The Applicant has amended claims 1, 2, 3, 4, 20 and 33 and claims 34-46 have been added. Accordingly, claims 1-46 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

2.) Examiner Objections

The drawings were objected to because, according to the Examiner, Figs. 1-3 should be designated by a legend such as "Prior Art," Fig. 4 contained two reference numbers for the same item, and Fig. 5 does not contain the 500 reference number. The Applicant has amended the drawings. Specifically, Figs. 1-3 have been amended to add a "Prior Art" legend. Fig. 4 has been amended so that reference number "410" refers to NS1, not NS2. Fig. 5 has been amended to add the reference 500. More formal drawings Figs. 1-7, which include the changes to Figs. 1-5, are enclosed. The Examiner's approval of the drawing changes and the formal drawings is respectfully requested.

3.) Claim Rejections – 35 U.S.C. § 102(b)

In paragraph 5 of the Office Action, the Examiner rejected claims 1, 6-8, 18 and 19 under 35 U.S.C. § 102(b) as being anticipated by Ozawa (EP 655,731). The Applicants have amended the claims to better define the intended scope of the claimed invention. The Examiner's consideration of the amended claims is respectfully requested.

Specifically, claim 1 states:

1. In a telecommunications system having voice communications subject to noise, a distributed noise suppression system for suppressing said noise for a given one of said voice communications, said noise suppression system comprising:

a first noise suppressor, within a first device, giving a first amount of noise suppression level for suppressing noise received by said first device

prior to transmission of the noise-suppressed signal to a destination device; and

a second noise suppressor, within said destination device, giving a second amount of noise suppression level for further suppressing the noise-suppressed signal received from said first device to said destination device, whereby the noise associated with said given one of said voice communications is reduced by an overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels.

In contrast, Ozawa does not teach nor disclose reducing the noise associated with one of the voice communications by “overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels.” Thus, one or more of the recited features of claim 1 are not disclosed in Ozawa. Therefore, the withdrawal of the rejection under § 102 for claim 1 is respectfully requested.

Claims 6-8, 18 and 19 depend from amended claim 1 and recite further limitations in combination with the novel elements of claim 6-8, 18 and 19. Therefore, the allowance of claims 6-8, 18 and 19 is also respectfully requested.

4.) Claim Rejections – 35 U.S.C. § 103(a)

In paragraph 7 of the Office Action, the Examiner rejected claims 2, 4 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Ozawa and further in view of Romesberg (WO 97/34290). The Examiner’s consideration of the amended claims is respectfully requested.

As noted above, Ozawa does not teach nor disclose reducing the noise associated with one of the voice communications by “overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels.” In addition, these limitations are not taught nor suggested by Romesberg, which discloses a device that merely relates to a time-domain, noise suppressor circuit.

In paragraph 8 of the Office Action, the Examiner rejected claims 3 and 5 under 35 U.S.C. § 103(a) as being unpatentable over Ozawa and further in view of Romesburg and Voit (US 6,075,783). As noted above, Ozawa does not teach nor disclose reducing the noise associated with one of the voice communications by "overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels." In addition, these limitations are not taught nor suggested by Romesberg, which discloses a device that merely relates to a time-domain, noise suppressor circuit. Additionally, these limitations are not taught by Voit which simply relates to a method for providing PCS and cellular service over a public packet data network such as the Internet.

In paragraph 9 of the Office Action, the Examiner rejected claims 9 and 10 under 35 U.S.C. § 103(a) as being unpatentable over Ozawa and further in view of Aoki, et al. (US 5,933,506). As noted above, Ozawa does not teach nor disclose reducing the noise associated with one of the voice communications by "overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels." In addition, these limitations are not taught nor suggested by Aoki, which discloses a device that pertains to a transmitter receiver which has an air conducted sound pickup microphone and a bone conducted sound pickup.

In paragraph 11 of the Office Action, the Examiner rejected claims 12-14 under 35 U.S.C. § 103(a) as being unpatentable over Ozawa and further in view of Dolby (US 3,665,345). As noted above, Ozawa does not teach nor disclose reducing the noise associated with one of the voice communications by "overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels." In addition, these limitations are not taught nor suggested by Dolby, which discloses a device that is essentially an all-pass filter at low levels and only becomes a high-pass or low-pass filter at higher levels.

In paragraph 12 of the Office Action, the Examiner rejected claim 16 under 35 U.S.C. § 103(a) as being unpatentable over Ozawa and further in view of Suvanen, et al. (US 6,081,732). As noted above, Ozawa does not teach nor disclose reducing the noise associated with one of the voice communications by “overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels.” In addition, these limitations are not taught nor suggested by Suvanen, which discloses a device for eliminating acoustic echo in a digital mobile communications system.

In paragraph 13 of the Office Action, the Examiner rejected claim 17 under 35 U.S.C. § 103(a) as being unpatentable over Ozawa and further in view of Ferrer, et al. (US 6,115,589). The Applicant has amended the claim to better distinguish the claimed invention from Ozawa and Ferrer. As noted above, Ozawa does not teach nor disclose reducing the noise associated with one of the voice communications by “overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels.” In addition, these limitations are not taught nor suggested by Ferrer, which discloses a SONAD control system which detects a received signal strength for a radio frequency signal, selects a threshold transfer function in response thereto, generates a threshold control signal in control signal to select the SONAD threshold value.

In paragraph 14 of the Office Action, the Examiner rejected claims 20-23 30 and 33 under 35 U.S.C. § 103(a) as being unpatentable over Ozawa in view of Romesburg. The Applicant has amended the claims to better distinguish the claimed invention from Ozawa and Romesburg. As noted above, Ozawa does not teach nor disclose reducing the noise associated with one of the voice communications by “overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels.” In addition, these limitations are not taught nor suggested by Romesberg, which discloses a device that merely relates to a time-domain, noise suppressor circuit.

In paragraph 15 of the Office Action, the Examiner rejected claims 24 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Ozawa and Romesburg, and further in view of Aoki. As noted above, Ozawa does not teach nor disclose reducing the noise associated with one of the voice communications by “overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels.” In addition, these limitations are not taught nor suggested by Romesberg, which discloses a device that merely relates to a time-domain, noise suppressor circuit. Additionally, these limitations are not taught by Aoki which discloses a device that pertains to a transmitter receiver which has an air conducted sound pickup microphone and a bone conducted sound pickup.

In paragraph 16 of the Office Action, the Examiner rejected claim 26 under 35 U.S.C. § 103(a) as being unpatentable over Ozawa in view of Romesburg and Aoki, and further in view of Foulkes, et al. (US 3,560,669). As noted above, Ozawa does not teach nor disclose reducing the noise associated with one of the voice communications by “overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels.” In addition, these limitations are not taught nor suggested by Romesberg, which discloses a device that merely relates to a time-domain, noise suppressor circuit. Additionally, these limitations are not taught by Aoki which discloses a device that pertains to a transmitter receiver which has an air conducted sound pickup microphone and a bone conducted sound pickup. Similarly, Foulkes simply discloses a voice controlled differential split echo suppressor employing linear logic circuitry for controlling the insertion and removal of loss in dependence upon the transmit and receive channel signals levels.

In paragraph 17 of the Office Action, the Examiner rejected claims 27-29 under 35 U.S.C. § 103(a) as being unpatentable over Ozawa in view of Romesburg, and further in view of Dolby. As noted above, Ozawa does not teach nor disclose reducing the noise associated with one of the voice communications by “overall amount of noise suppression level, characterized by said overall amount of noise suppression level is

obtained by optimizing a linear combination of said first and said second amount of noise suppression levels." In addition, these limitations are not taught nor suggested by Romesberg, which discloses a device that merely relates to a time-domain, noise suppressor circuit. Additionally, these limitations are not taught by Dolby which discloses a device that is essentially an all-pass filter at low levels and only becomes a high-pass or low-pass filter at higher levels.

In paragraph 18 of the Office Action, the Examiner rejected claim 31 under 35 U.S.C. § 103(a) as being unpatentable over Ozawa and Romesburg and further in view of Suvanen. As noted above, Ozawa does not teach nor disclose reducing the noise associated with one of the voice communications by "overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels." In addition, these limitations are not taught nor suggested by Romesberg, which discloses a device that merely relates to a time-domain, noise suppressor circuit. Additionally, these limitations are not taught nor suggested by Suvanen, which discloses a device for eliminating acoustic echo in a digital mobile communications system.

In paragraph 19 of the Office Action, the Examiner rejected claim 32 under 35 U.S.C. § 103(a) as being unpatentable over Ozawa and Romesburg, and further in view of Ferrer. As noted above, Ozawa does not teach nor disclose reducing the noise associated with one of the voice communications by "overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels." In addition, these limitations are not taught nor suggested by Romesberg, which discloses a device that merely relates to a time-domain, noise suppressor circuit. Additionally, these limitations are not taught nor suggested by Ferrer, which discloses a SONAD control system which detects a received signal strength for a radio frequency signal, selects a threshold transfer function in response thereto, generates a threshold control signal in control signal to select the SONAD threshold value.

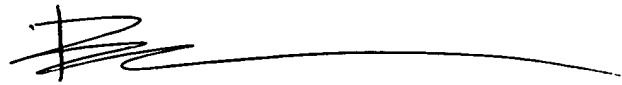
As discussed above, amended claims 1, 20, and 33 contain elements which are not found in the cited art. As provided in MPEP § 2143, "[t]o establish a prima facie case of obviousness, ... the prior art reference (or references when combined) must teach or suggest all the claim limitations." Furthermore, under MPEP § 2142, "[i]f the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness." It is submitted that the cited art does not provide the missing claim limitations as discussed above. Consequently, the Office Action does not factually support a prima facie case of obviousness. The Applicant, therefore, respectfully requests that this rejection be withdrawn.

CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



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